



MANUAL OF INSTRUCTION SEWING MACHINE MODEL 677

C O N T E N T S

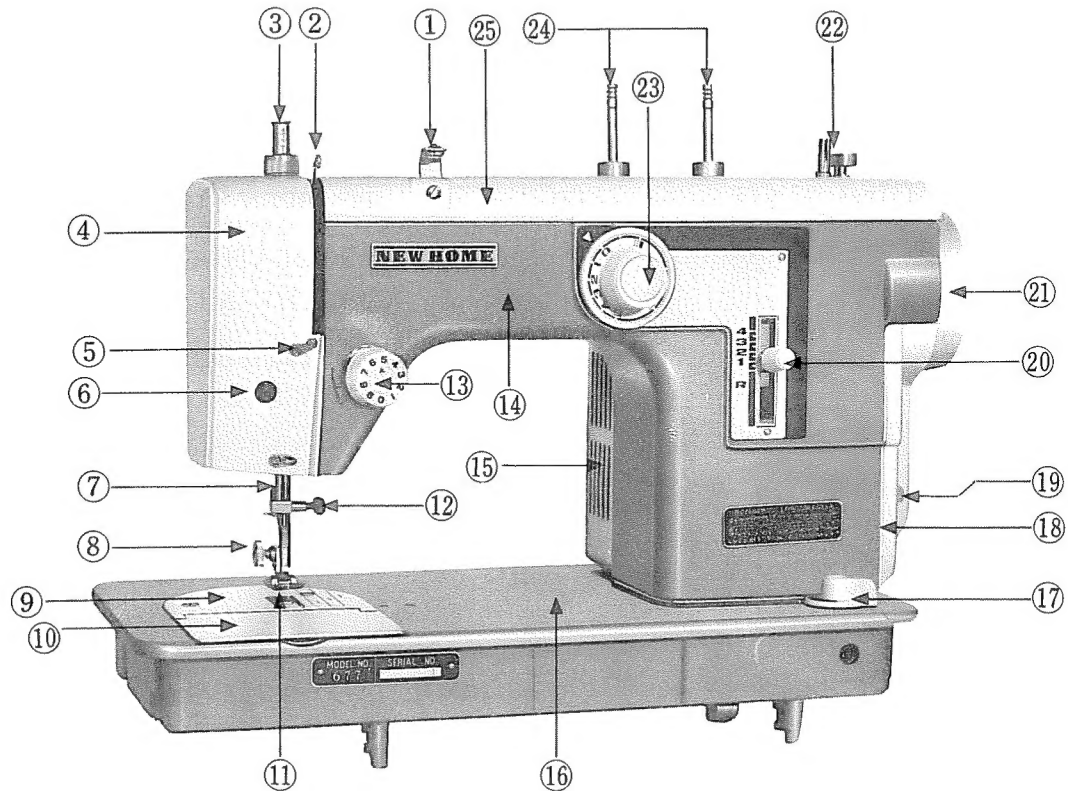
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NAMES OF PARTS



NAMES OF PARTS

- | | |
|---------------------------------|---------------------------------|
| ① Top cover thread guide | ⑭ Arm |
| ② Thread take-up lever | ⑮ Motor cover |
| ③ Patchomatic darning | ⑯ Bed-plate |
| ④ Face plate | ⑰ Drop feed knob |
| ⑤ Face plate thread guide | ⑱ Belt cover |
| ⑥ Red indicator lens | ⑲ Light switch |
| ⑦ Slotted bar thread cutter | ⑳ Stitch length regulator lever |
| ⑧ Presser foot thumb screw | ㉑ Balance wheel |
| ⑨ Needle plate | ㉒ Bobbin winder |
| ⑩ Shuttle cover plate | ㉓ Zigzag width dial |
| ⑪ Presser foot | ㉔ Spool pins |
| ⑫ Needle clamp screw | ㉕ Top cover |
| ⑬ Thread tension regulator dial | |

NEEDLE AND THREAD CHART

Size of Needles	C l o t h	Size of Threads
No. 11	Thin calico, cotton cloth, crepe de Chine, hosiery and silk.	No. 60-100 cotton thread or ordinary silk thread.
No. 14	Ordinary cotton cloth, thick silk, thin woolen goods, towels and shirting.	No. 40-60 cotton thread or ordinary silk thread.
No. 16	Thick cotton cloth, serge and thin woolen goods.	No. 30-60 cotton thread or ordinary silk thread.
No. 18	Ordinary woolen goods, trousers, over-coats, thick calico and children's clothes.	No. 30-60 cotton thread or ordinary silk thread.
Twin needle No. 14	Calico, silk, serge, cotton cloth and thin woolen goods.	No. 40-80 cotton thread or ordinary silk thread.

NOTE: Use a good quality mercerized cotton thread, if available, to avoid shrinking when laundered.

- 2) Place a bobbin on the bobbin winder spindle, turn the bobbin until the notch in the bobbin meets the spring on the spindle, and push the bobbin down. Then push the bobbin winding spindle so that the bobbin presser fits into the bobbin. (Fig. 1)
- 3) Place a spool of thread on the spool pin.
- 4) Pass the thread between the discs of the thread guide bracket. (Fig. 2)
- 5) Pass the end of the thread through one of the holes in the bobbin from inside to outside. (Fig. 2)
- 6) Holding the thread with your right hand, turn the balance wheel to wind the thread several times. Then cut the free end of the thread.
- 7) Run the machine until the thread is wound sufficient for requirements in the bobbin and stop the machine.
Then take out the bobbin from the spindle and cut the thread.
- 8) Tighten the stop motion screw.

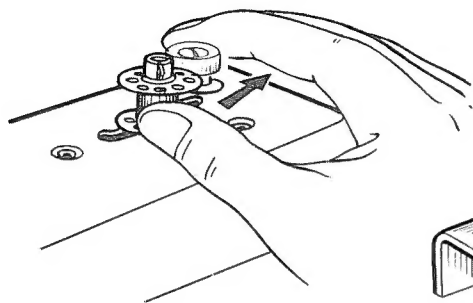


Fig. 1

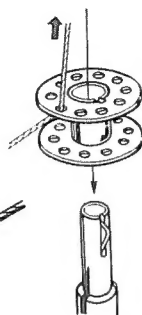


Fig. 2

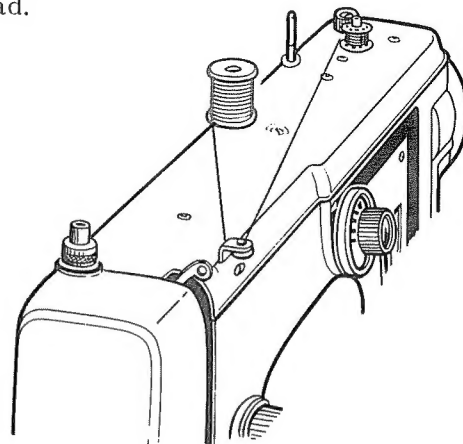


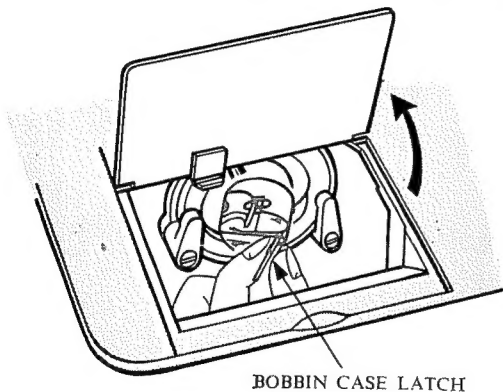
Fig. 3

TO REMOVE BOBBIN CASE

- 1) Raise the needle bar and take-up lever to their highest point by turning the balance wheel toward you.
- 2) Open the shuttle cover plate.
- 3) Lift the latch of bobbin case and draw out the bobbin case. While holding the latch open, the bobbin is kept in the bobbin case. Upon releasing the latch and turning the bobbin case downward, the bobbin will drop out.

(NOTE:)

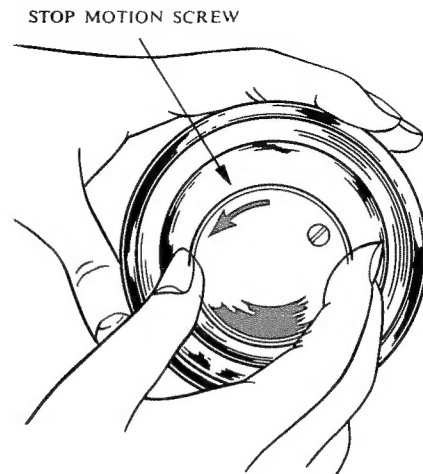
Be careful not to remove the bobbin case when the needle bar is at the lower position. Otherwise the needle and bobbin case may be damaged.



TO WIND BOBBIN

- 1) While holding the balance wheel with your left hand, turn the stop motion screw toward you with the right hand.

This allows the balance wheel to turn freely, disengaging the stitching mechanism.

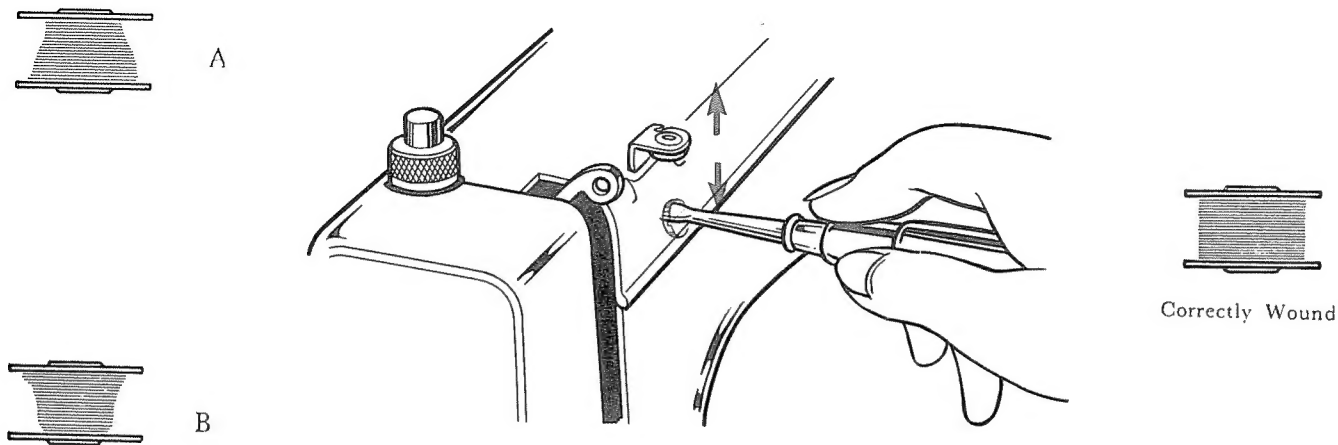


TO ADJUST THE BOBBIN WINDER

The bobbin must be wound evenly. If not, irregular stitching will be the result.

When the bobbin is wound excessively on the lower part of the bobbin (A), loosen the screw and then raise the top cover thread guide slightly. Tighten the screw to reset the thread guide.

When it is wound excessively on the upper part of the bobbin (B), lower the top cover thread guide slightly.



TO THREAD BOBBIN CASE

Holding the bobbin between the thumb and the forefinger of your left hand, pull out a few inches of thread.

Holding the bobbin case in your left hand, turn the open side up and place the threaded bobbin into it. (Fig. 1)

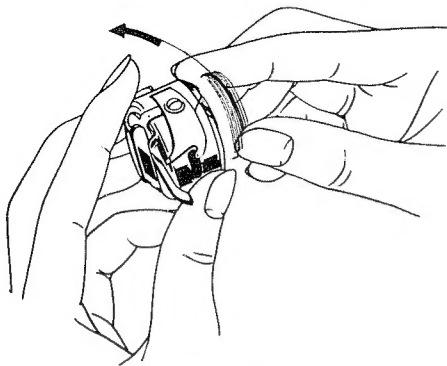


Fig. 1

Guide the thread into the slot in the edge of the bobbin case. (Fig. 2)

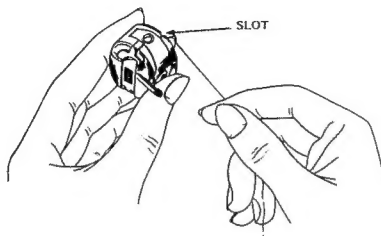


Fig. 2

Pull it under the tension spring and then into the delivery eye. (Fig. 3)

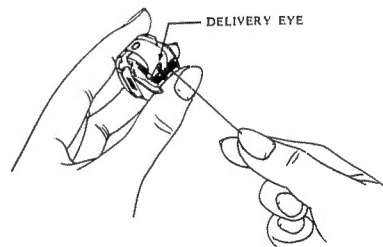


Fig. 3

TO INSERT BOBBIN CASE INTO SHUTTLE RACE

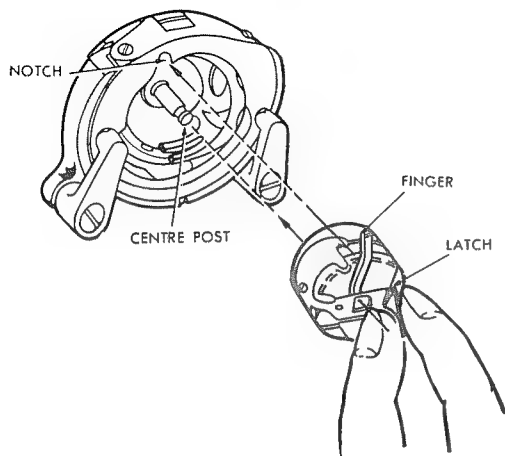
Raise the needle bar to the highest point.

Open the shuttle cover plate.

Hold the bobbin case by the latch and place it on the centre post with the bobbin case finger into the notch at the top of the shuttle.

Release the latch and press the bobbin case into the shuttle until the latch catches on the centre post with a click.

Permit the thread to hang down freely a few inches.



TO INSERT NEEDLE

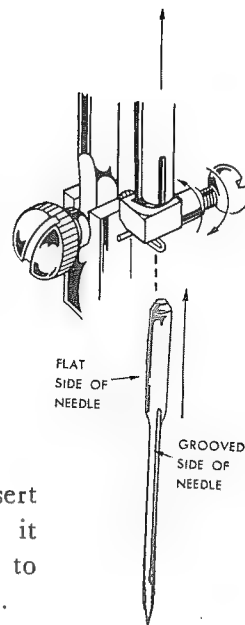
Raise the needle bar to the highest point by turning the balance wheel with your right hand.

Loosen the needle clamp screw and insert the needle upward into the slot as high as it will go, with the flat side of the needle to the back and the grooved side toward you.

Tighten the needle clamp screw firmly.

(NOTE:) Avoid using a bent or blunt needle.

For perfect stitching, select a right needle and a thread to correspond with the fabric according to the table on page 6.



TO THREAD NEEDLE

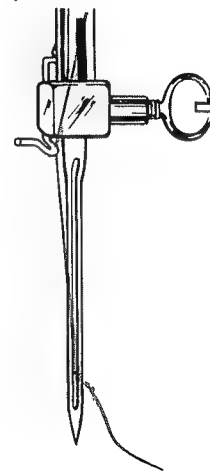
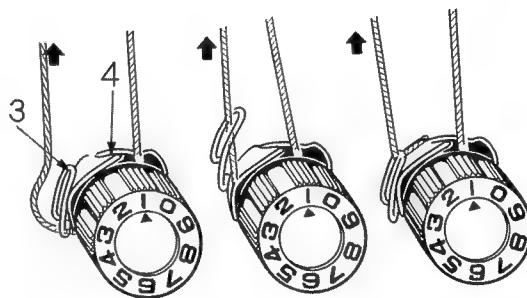
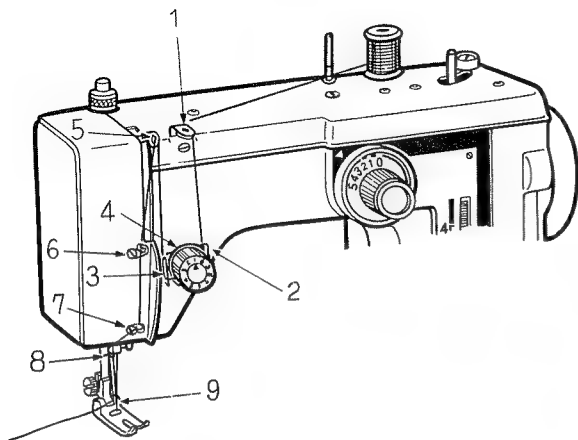
Raise the take-up lever to the highest point by turning the balance wheel toward you.

Place a spool of thread on the spool pin.

Pass the thread through top cover thread guide (1), downwards between tension discs (2) from right to left, up over the tension thread guide (4) from behind, through the loop of the take-up spring (3), up and through the hole in the take-up lever (5), down through thread guides (6)(7), and into the thread guide (8) at the lower end of the needle bar.

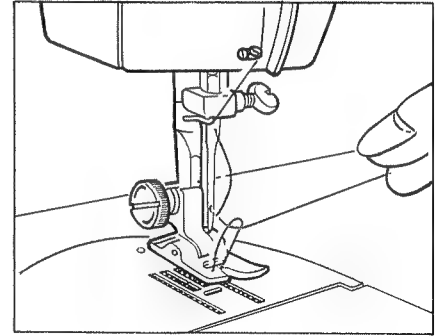
Then pass through the eye (9) of the needle from front to back.

Draw about six inches of thread through the eye of the needle.



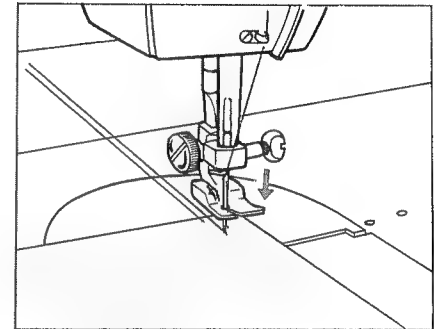
TO DRAW UP LOWER THREAD

Hold the upper thread loosely with your left hand.
Turn the balance wheel toward you with your right hand until the needle and take-up lever move down and up again to the highest point, then stop the balance wheel and pull the upper thread slowly to bring up the lower thread through the needle hole.
Place both ends of the threads under the presser foot.



TO START SEWING

Place the cloth under the presser foot.
With the left hand hold loosely both ends of threads and turn the balance wheel by the right hand to let the needle penetrate the point from which to start sewing.
Lower the presser foot on the cloth and start sewing.

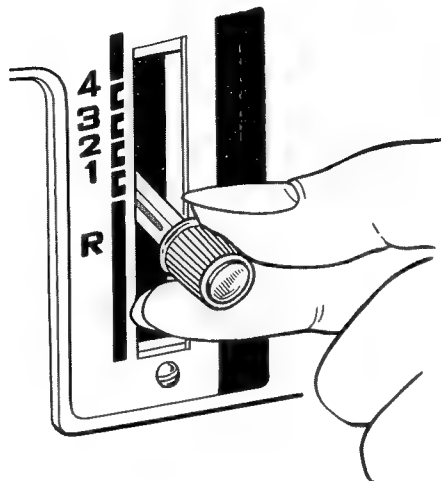


TO ADJUST LENGTH OF STITCH AND DIRECTION OF FEED

To adjust the length of stitch for forward sewing, first loosen the regulator lever by turning the knob anti-clockwise and select the desired stitch length by moving the lever to the indicating line and then tighten the lever by turning the knob clockwise.

When the lever is set in the upper half of the slot, the machine will sew forward.

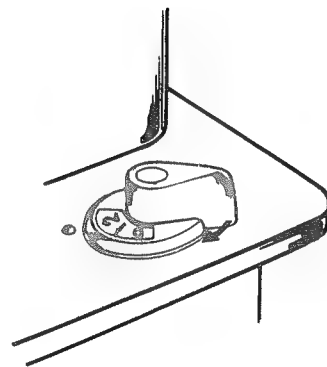
For reverse sewing, move the lever in the lower half of the slot (indicated by "R").



TO USE DROP FEED DEVICE

The drop feed device should be adjusted according to thickness of the cloth.

For sewing average or heavy materials, turn the drop feed knob to "2". For sewing light materials like silk, nylon, etc, turn the knob to "1". When the knob is turned to "0", the feed drops below the surface of the needle plate, and you can move freely the cloth for darning or embroidery.

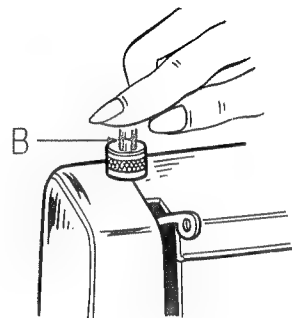
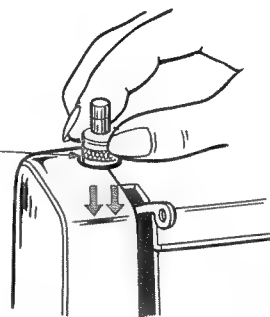


TO ADJUST PRESSURE ON PRESSER FOOT

For releasing pressure on the foot, press down the ring (A), which will allow the darning to spring up to its highest position and leave the material free from any pressure from the presser foot.

For sewing thin or light fabrics, press the top of the darning (B) down lightly to get the required slight pressure on the fabric.

For sewing thicker or heavier fabrics, push the top of the darning down further, in order to get a heavier pressure on the presser foot.

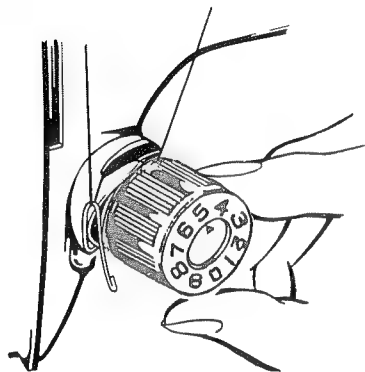


TO ADJUST THREAD TENSIONS

For ordinary stitching the tension of the upper and lower threads should be equal so as to lock both threads in the centre of the fabric. (A)

If the tension of one thread is stronger than that of the other, imperfect stitching will be the result. If the tension of the upper thread is greater than that of the lower thread, the upper thread will lie straight along the upper surface of the fabric. (B)

If the tension of the lower thread is greater than that of the upper thread, the lower thread will lie straight along the underside of the fabric. (C)



TENSION OF UPPER THREAD

The sewing machine will give perfect performance when the upper tension is correctly adjusted.

- The tension of the upper thread will become stronger when the thread tension dial knob is turned to the right or clockwise.
- The upper thread tension becomes weaker when the tension dial knob is turned to the left or anti-clockwise.
- When the tension has been adjusted satisfactorily, the thread tension dial can be returned to the same dial number to obtain the same result.

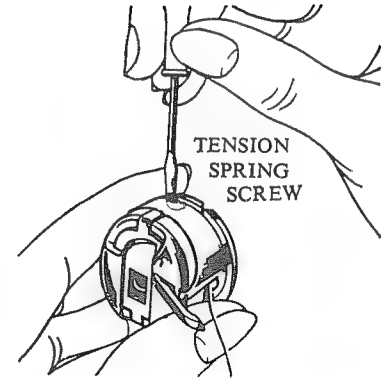
TENSION OF LOWER THREAD

The tension of the lower thread is regulated by a small screw on the bobbin case tension spring.

To increase the tension, tighten the screw slightly with a small driver.

To decrease the tension, loosen the screw slightly.

(This should seldom be necessary.)



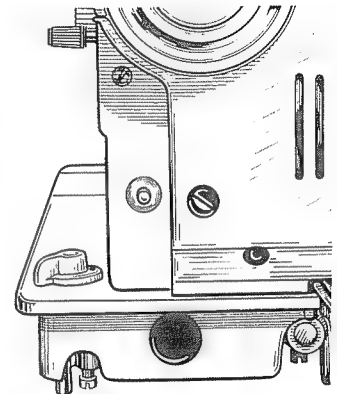
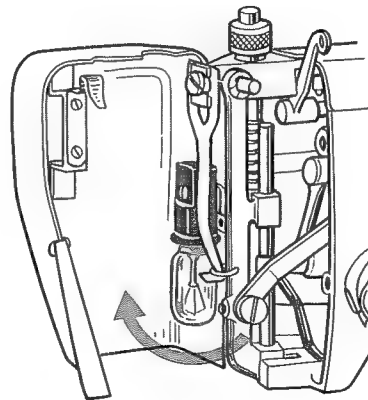
TO USE BUILT-IN SEWLIGHT

The sewlight is turned "on" or "off" by turning the light switch which is found on the arm below the balance wheel.

LAMP-BULB

The type of bulb fitted is a 15 watt small bayonet cap (S. B. C.) and is easily replaced if necessary by opening the face plate of the machine.

(See illustration.)



ZIGZAG STITCH CONTROL DIAL

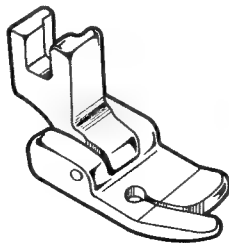
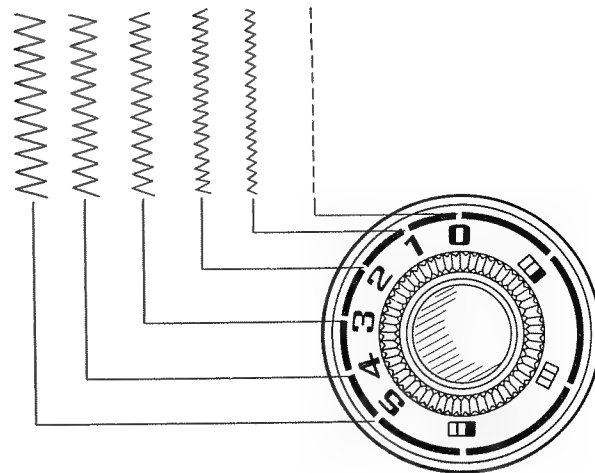
The zigzag width dial controls the width of zigzag stitches.

As you turn the dial from 0 to 5, the machine sews increasing width of zigzag stitches up to about 3/16 inch.

For straight sewing, set the zigzag width dial at "0".



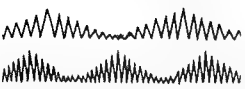

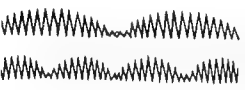
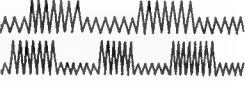
(NOTE :)

Straight sewing may be achieved using the normal zigzag presser foot fitted as standard on the machine, but in the event of missed stitches occurring on particular fabrics, it may be necessary to replace this with straight stitch foot provided.



MANUAL ZIGZAG PATTERN SEWING

By manually adjusting the stitch length and zigzag width while running the machine, some beautiful ornamental stitches can be made as follows:

Patterns	Stitch Length	Width	Patterns	Stitch Length	Width
	long short	Set to any point from 1 to 5.		long and short (repeat)	Set to any point from 1 to 5.
	long short	Gradually move the dial from 0 to 5 and return to 0. (repeat)		long short	Set to 0. Quickly move the dial to 5 and back to 0. (repeat)
	long short	Very slowly move the dial from 0 to 5 and return to 0. Gradually move the dial from 0 to 5 and return to 0.(repeat)		long short	Move the dial quickly and alternatively from 2 to 5 and from 5 to 2.

TWIN NEEDLE SEWING

Colorful patterns are sewn with a twin needle using two threads of contrasting colors.

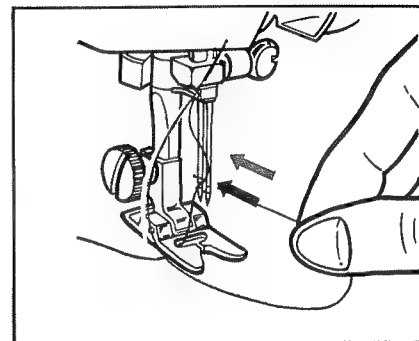
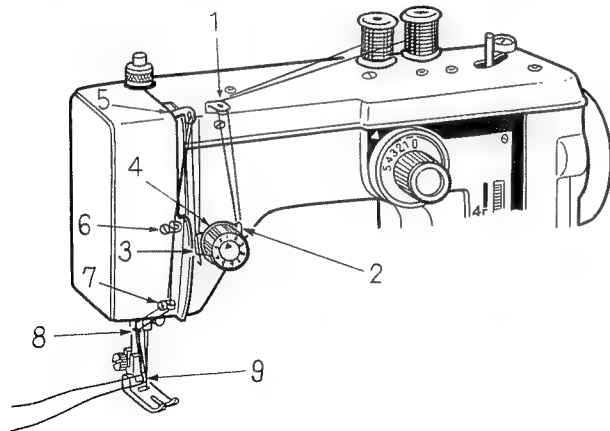
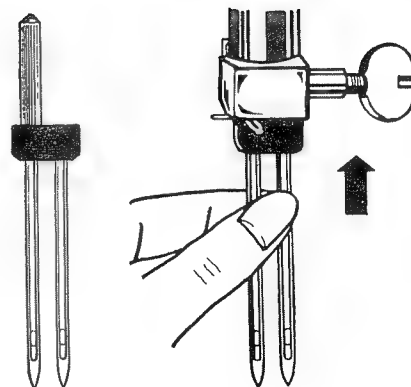
Use the left shank twin needle included in the accessories.

Turn the zigzag width dial somewhere between "1" and "2", and make sure to keep it within the number "2" position in order to avoid the needle hitting the needle plate.

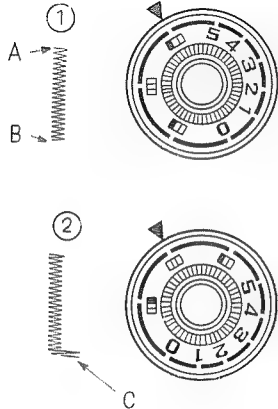
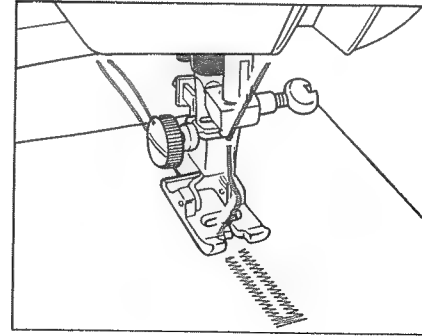
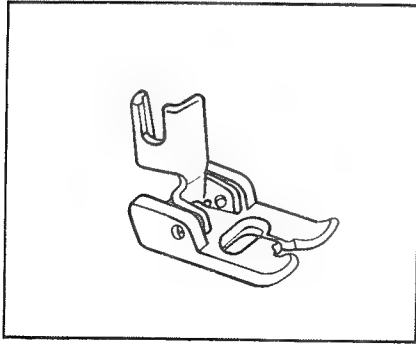
Threading of the twin needle is the same as in the single needle threading except that two threads are passed through the two eyes of the needle.



Draw about six inches of thread through each eye of the needle.

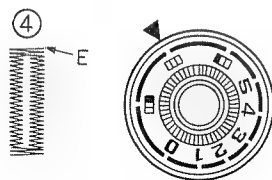
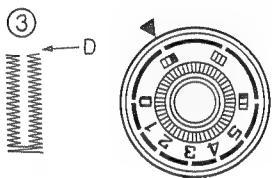
(NOTE:) When you use the twin needle, insert as far as it will go and tighten the needle clamp firmly.




BUTTONHOLE SEWING




1. Replace the presser foot with the plastic buttonhole foot.
With a pencil or tailor's chalk, mark the position and the length of the buttonhole on the fabric.
2. Set the stitch length regulator lever between "0" and "1".
(Coarse stitches for a heavy material and fine stitches for a light material are suggested for buttonhole sewing.)
3. Set the symbol () on the zigzag width dial to the mark (▼).
Turn the balance wheel slowly towards you until the needle comes to the left side of the needle hole (A) and lower the presser foot.
Sew slowly until a desired length is sewn and stop the machine at the point (B).
4. Turn the zigzag width dial clockwise and set the symbol () to the mark (▼).
Sew about five stitches and stop the machine at the point (C).



5. Turn the zigzag width dial clockwise and set the symbol () to the mark (▼).

Sew until length of the right row is the same size as the left.

Then stop the machine when the needle comes to the point (D), and raise the needle.

6. Turn the zigzag width dial anticlockwise until the symbol () comes to the mark (▼).

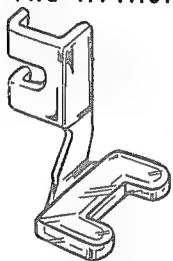
Sew about five stitches and stop the machine when the needle comes to the point (E).

To lock the thread, set the zigzag width regulator dial at “0”, move the stitch length regulator lever at the neutral position in the slot to make no-feed and sew a few stitches.

Cut the slot of the buttonhole with a buttonhole cutter or a seam ripper carefully not to cut through the bar tacks.

To make a heavier buttonhole, sew twice by repeating the same procedure.

※THE ATTACHMENTS ILLUSTRATED ON THE FOLLOWING PAGES ARE OPTIONAL EXTRAS.



SEWING ON A BUTTON

Replace the presser foot with the button sewing foot.

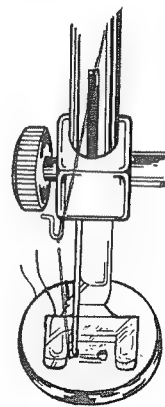
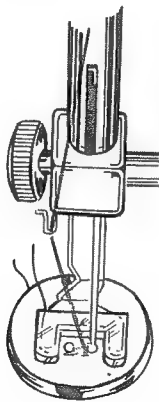
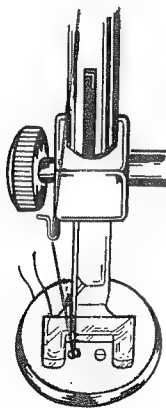
Turn the drop feed knob to "0".

With the button sewing foot in a raised position, place a button on the fabric with its holes in a horizontal line and the left side hole underneath the needle, and let down the foot upon it.

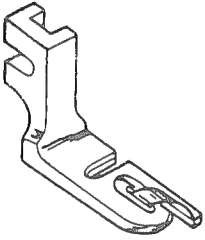
Set the zigzag width dial in accordance with the distance between the holes in the button, so that the needle enters the right hole of the button.

Sew six or seven stitches by turning the balance wheel with your right hand.

To lock the thread, set the zigzag width dial at "0" and make three or four stitches.



TO USE HEMMER FOOT



Raise the needle to its highest point.

Raise the presser bar, remove the regular presser foot, and attach a hemmer foot. Fold over the edge of the fabric approximately $\frac{1}{8}$ inch wide, then fold it over again in the same way for a length of about 2 inches.

Insert this folded end below and into the spiral-formed opening (scroll) of the hemmer foot.

Move the fabric back and forth until the hem forms itself in the scroll.

Pull the fabric toward you until the beginning of the hem is just below the needle.

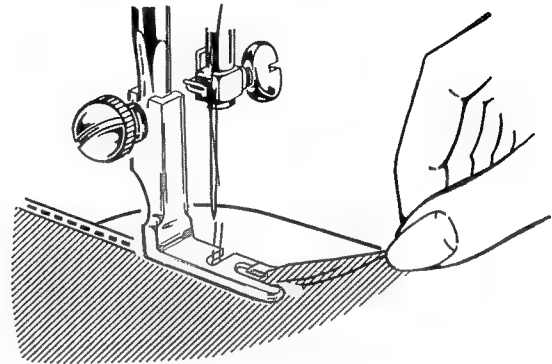
Guide the fabric into the hemmer foot while proceeding to sew.

NOTE :

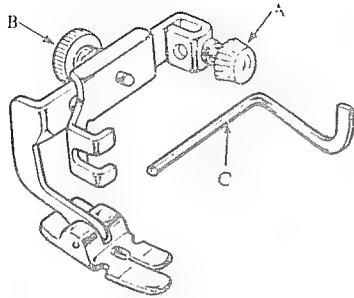
Do not crowd fabric into the scroll, nor leave the scroll only partly filled with fabric.

Instead of a straight stitch, you can also use a zigzag stitch for this hemming operation.

Be sure, however, to adjust the width of the zigzag stitch so that it is as wide as the hem itself.



SEWING IN A ZIPPER



Using the double purpose zipper foot (zipper and quilter) included in the accessories, you can sew zippers on the fabric.

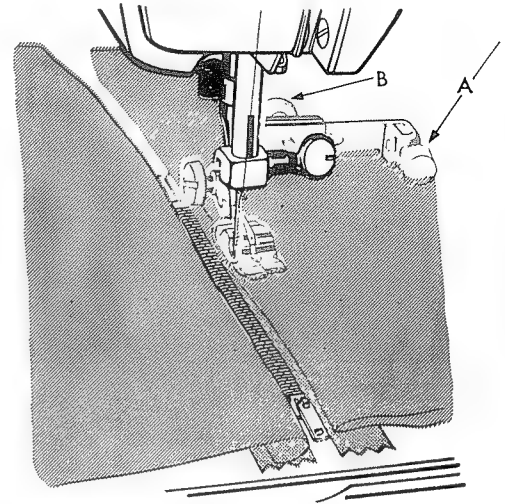
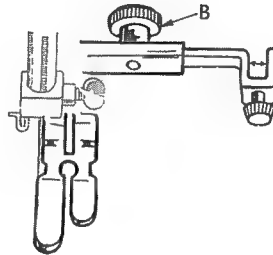
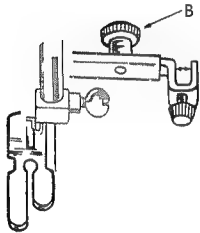
Loosen the screw (A) to take off the hook shaped quilter attachment (C) from the zipper foot. Attach the zipper foot to the presser bar in place of the presser foot.

Set the zigzag width dial at "0".

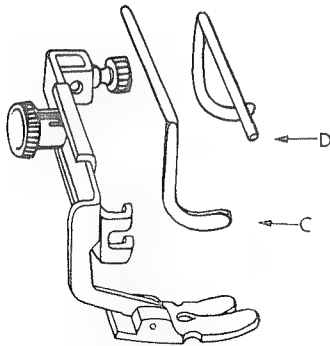
Place the zipper and fabric under the needle as shown here.

Loosen the thumb screw (B) to set the foot on the left of the needle, and sew the left side of the zipper.

To sew the right side of the zipper, bring the foot to the right side of the needle.



TO USE QUILTING ATTACHMENT



The quilting attachment will enable you to sew parallel lines on a padded fabric without the necessity of marking them in advance.

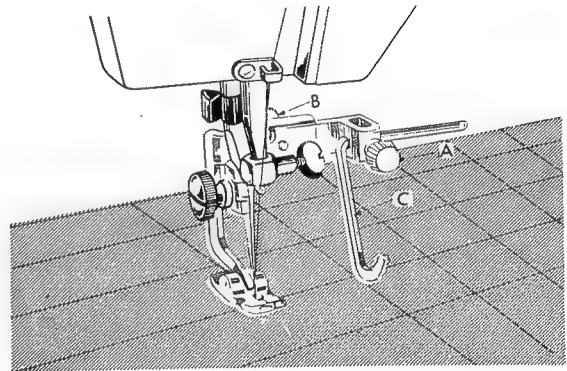
There are two kinds of quilters (C & D) in the accessories to be attached to the right or left side of the clamp on the zipper foot depending on the distance between parallel lines.

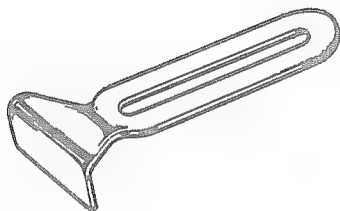
To attach the quilter to the foot, loosen the thumb screw (A) and clamp the quilter with it.

Adjust the curved hook at a desired distance from the needle and adjust it to press on the fabric.

Set the zigzag width dial at "0".

When sewing, the hook should follow the preceding line of stitching.



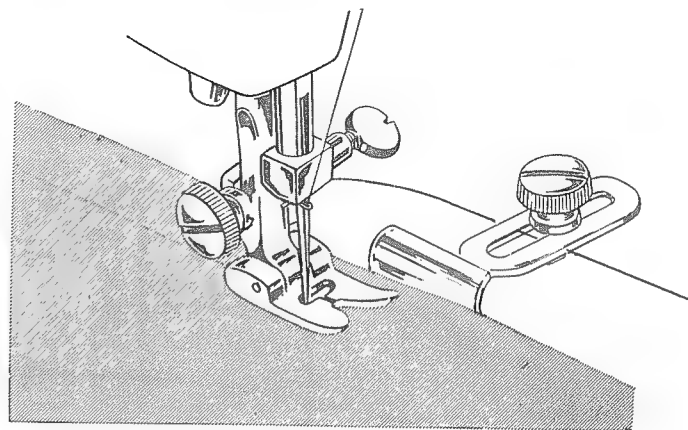


TO USE CLOTH GUIDE

Cloth guide is used for stitching close to the edge of the fabric or to make a wide hem up to 1½ inches in a straight and uniform line.

To attach the cloth guide, place it over the hole to the right of the needle hole in the bed of the machine.

Attach it with the thumb screw adjusting the guide at the desired distance, and tighten the thumb screw firmly.



EMBROIDERY

Raise the presser bar lifter and remove the presser foot.

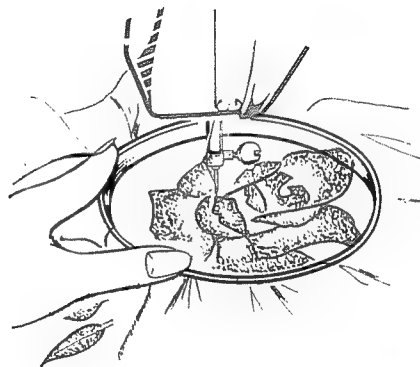
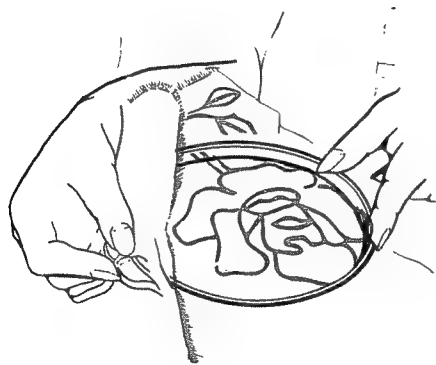
Turn the drop feed knob to "0".

Now your machine is ready for embroidery.

Embroidery will be done most successfully when the fabric is stretched and fixed in an embroidery hoop. Hold the hoop closely on the machine bed with both hands, press the material with your left forefinger in the vicinity of the needle.

This will help in holding down the material and will prevent the machine from making skipped stitches. Manipulate work carefully and be sure to keep fingers out of the path of the needle.

Adjust thread tensions for the best appearance of embroidery work and slightly increase the bobbin thread tension to avoid the lower thread from being pulled up.



TO SEW A BLIND STITCH HEM

Set the zigzag width dial at about "3", and the stitch length regulator lever at "3".

Turn the balance wheel until the feed dog goes down below the needle plate level.

Lower the presser foot.

Then loosen the presser foot thumb screw to insert the blind stitch hem guide between the screw and the presser foot. (Fig. 2)

Tighten the presser foot thumb screw making sure that the guide (A) is placed in the middle of the toes of the presser foot.

With the fabric inside out, fold it to the desired size of hem. (No. 1)

Fold it again leaving a margin of $\frac{1}{8}$ inch on the bottom fold (B). (No. 2)

Place the fabric under the presser foot with the double fold line against the side of the blind stitch hem guide.

Lower the presser foot and sew as you feed the double fold (C) along the guide.

Unfold the fabric and you will have a blind stitch hem. (No.3)

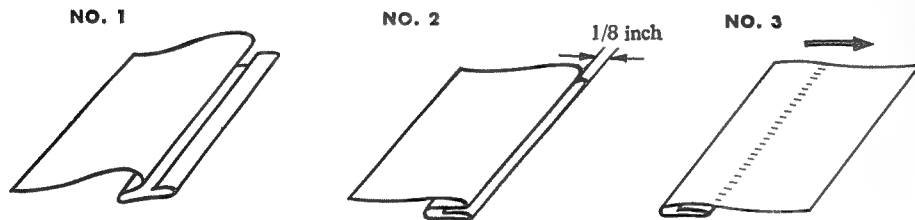


Fig. 1

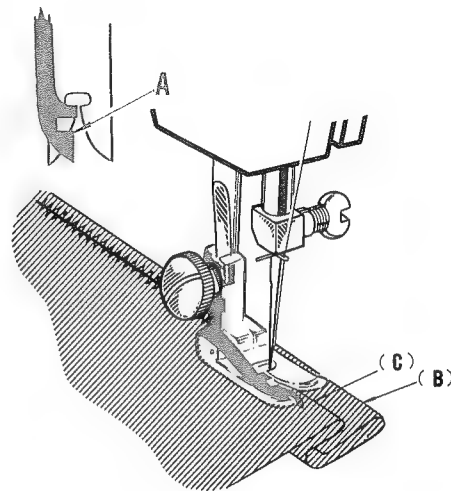


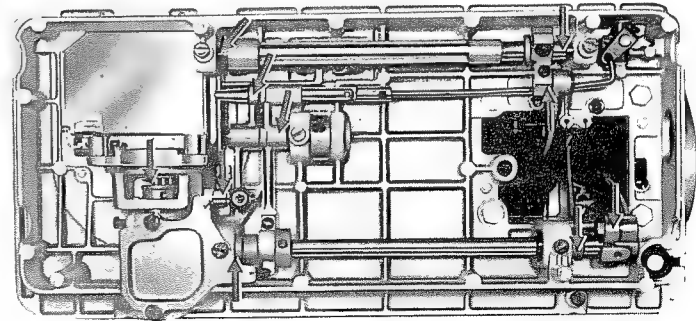
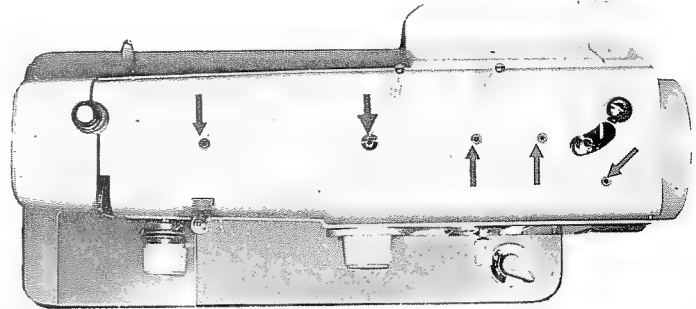
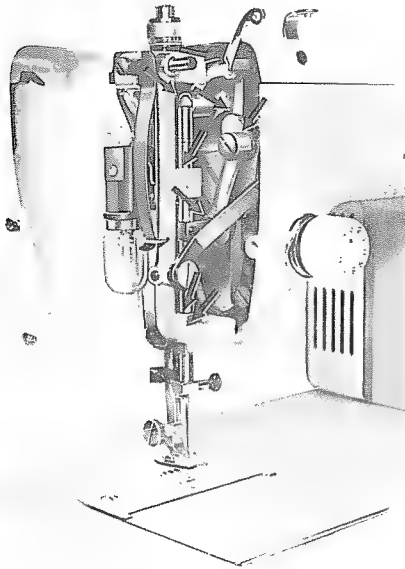
Fig. 2

TO OIL MACHINE

Apply a few drops of fine quality sewing machine oil to the points indicated by the arrows in the figures. In constant use, oil two or three times a week.

In case the machin does not work smoothly due to standing idle for some time, apply a few drops of paraffin at the oiling points, and run the machine rapidly for a minute, ensuring the threads are removed from the machine.

Before oiling, wipe off the oiling points.



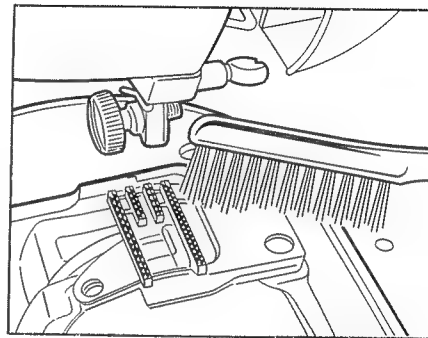
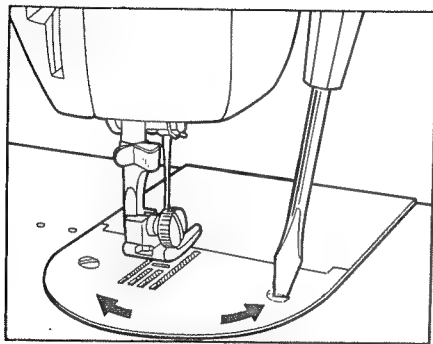
TO CLEAN FEED DOG

It is necessary to keep the feed dog teeth always cleaned in order to ensure smooth sewing.

Unscrew the needle plate set screws with a small driver to take off the needle plate from the machine bed.

With a brush, clean out dust and lint clogged on the feed dog teeth.

Reset the needle plate.



TO OPEN SHUTTLE RACE

Because your machine is specially equipped with the shuttle thread ejector which prevents jamming of the shuttle, it will rarely be necessary to open and clean the shuttle-race.

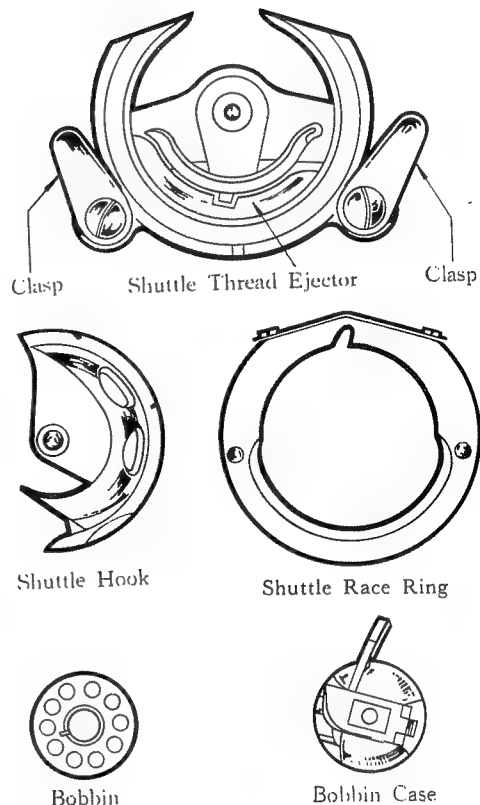
However, if for some reason it should ever be required to open and clean the shuttle-race, its design enables you to do this most easily and conveniently without sacrificing the precise fit which is so essential to the efficient working of the machine.

To open the shuttle-race, first raise the needle bar to its highest point and remove the bobbin case.

Next, twist the shuttle-race ring clasps outward and take out the shuttle ring.

Carefully remove shuttle hook and clean out shuttle-race. Replace shuttle hook, shuttle-race ring and lock with clasps.

Be careful not to drop or otherwise damage the shuttle.

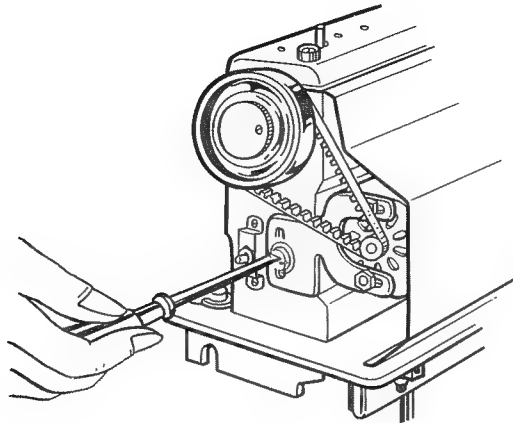


REGULATING THE BELT TENSION ON THE MOTOR

To adjust the belt tension, take off the belt cover and loosen the attaching screw about one turn with a screwdriver.

This will allow the motor to move either up or down as required.

Firmly tighten the screw, and the belt should have the correct tension.



UNSATISFACTORY CONDITIONS: CAUSES AND REMEDIES

THE UPPER THREAD BREAKS

<i>CAUSE</i>	<i>REMEDY</i>
1. The needle is not set correctly.	Set it correctly.
2. The tension is too tight.	Loosen it.
3. Something is wrong with the needle.	Replace it.
4. The thread used is too heavy for the needle.	Replace it.
5. The check spring is broken.	Replace it.
6. The needle is not threaded correctly.	Thread the needle correctly.
7. The needle plate, the hook, or the presser foot is damaged.	Replace it.

THE LOWER THREAD BREAKS

1. When the lower thread is not wound correctly, it gets entangled.	Wind it properly.
2. The lower thread is off the tension spring of the bobbin case.	Put it in its proper position.

SKIPPED STITCHES

1. The needle is not attached to the needle bar correctly.	Attach it properly.
2. The needle is either bent or blunt.	Replace it.
3. A worn needle is used.	Replace it.

THE NEEDLE BREAKS

1. The needle is bent.	Replace it.
2. The needle is not attached properly.	Attach it correctly.
3. The material is too thick or heavy.	Use a proper needle.
4. The material is being pulled by the operator.	Don't pull on the cloth.
5. The needle is of inferior quality.	Replace it with a proper needle.

STITCHING FORMS LOOPS

<i>CAUSE</i>	<i>REMEDY</i>
1. The thread tension is not properly adjusted.	See instructions for adjustment of upper and lower thread tensions.
2. The needle is not threaded correctly and/or the bobbin is not wound properly.	Thread the needle and/or rewind the bobbin properly.
3. The weight of the material and the size of the thread are not in accord.	See instructions covering the use of proper needle and threads with varying materials.
4. The check spring does not work well.	Replace it.

SEAMS SHRINK OR PUCKER

1. The thread tension is too tight.	See instructions for adjustment of upper and lower thread tensions.
2. The pressure of the presser foot is too strong.	See instructions for adjustment of the pressure of the presser foot.
3. Seams are too coarse for the material.	Adjust the stitch length.

IRREGULAR STITCHING

1. The upper and lower threads are of inferior quality.	Use thread of best quality.
2. The thread is wound around the bobbin unevenly.	Rewind it.

THE MACHINE DOES NOT WORK SMOOTHLY AND IS NOISY

1. The machine is in need of oil	Apply oil as per instructions.
2. Dust and waste thread have collected in the hook mechanism.	See instructions pertaining to cleaning the race and hook.
3. Oil of inferior quality is used and has coagulated.	Clean thoroughly and oil again with proper sewing machine oil of best quality.
4. The tension on the belt is too tight.	Loosen it.

M E M O

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